

## Development Standards Draft Ordinance Language

### Chapter 24

#### Article I. In General

##### 24-2. Definitions

- a) **FOOTCANDLE:** A measure of light falling on a surface. One (1) foot-candle is equal to the amount of light generated by one (1) candle shining on one (1) square foot surface located one (1) foot away. Foot-candle measurements shall be made with a photometric light meter and with a specified horizontal orientation.
- b) **LIGHTING FIXTURE:** A complete lighting unit consisting of the lamp, lens, optical reflector, housing and an electrical components necessary for ignition and control of the lamp, which may include a ballast, starter and/or photo control.
- c) **LIGHTING FIXTURE, DIRECTIONALLY SHIELDED:** A lighting fixture which emits a light distribution where some light is emitted at or above a horizontal plane located at the bottom of a fixture. Such fixtures may contain visors, louvers or other types of shields or lenses which are designed to direct light onto a targeted area and to minimize stray light.
- d) **LIGHTING FIXTURE, FULL CUT-OFF:** A lighting fixture from which no light output is emitted at or above a horizontal plane drawn through the bottom of the lighting fixture. Lighting fixtures located within those portions of open-sided parking structures that are above ground which meet the angle requirements set forth above through the use of any portion of the ceiling or walls of the parking structure shall be deemed full cut-off lighting fixtures.
- e) **LUMEN:** A quantitative unit measuring the amount of light emitted from a light source.
- f) **PHOTOMETRIC DIAGRAM:** A diagram depicting the location of all light poles and building mounted lighting fixtures in a specified area and a numerical grid of the maintained lighting levels that the fixture will produce in that specified area

### Chapter 24. Zoning

#### Article II, SPECIAL REGULATIONS

##### Division 7 OUTDOOR LIGHTING

###### Section 24-1000: Statement of intent

The intent of this ordinance is to require and set minimum standards for outdoor lighting to provide for and control lighting in outdoor public places where public health, safety and welfare are potential concerns. These concerns include protecting drivers and pedestrians from the glare of non-vehicular light sources; protecting neighbors, and the night sky from nuisance glare and light trespass from improperly selected, placed, aimed, applied, maintained or shielded light sources; promoting energy

efficient lighting design and operation; and protecting and retaining the intended visual character of the various county venues.

### **Section 24-1001 Plan Submission**

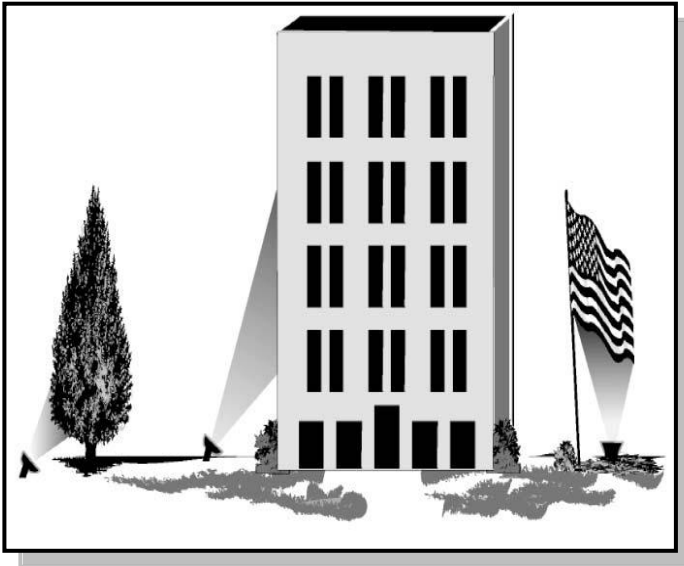
Where site lighting is required by this section, is otherwise required by the county, or is proposed by applicant, lighting plans shall be submitted for county review and approval for site plans, and subdivision plans. The submitted information shall include the following:

- a) A plan or plans of the site, complete with all structures, parking spaces, building entrances, traffic areas (both vehicular and pedestrian), existing and proposed trees, and adjacent uses that might be adversely impacted by the lighting. The lighting plan shall contain a layout of all proposed and existing luminaires, including but not limited to area, architectural, building entrance, canopy, soffit, landscape, flag, sign, etc., by location, orientation, aiming direction, mounting height, lamp, photometry, and type.
- b) Landscaping plans shall contain luminaire locations, demonstrating that the site lighting and landscaping have been coordinated to minimize conflict between vegetation and intended light distribution, both initially and at vegetation maturity.
- c) Plan Notes – The following notes shall appear on the lighting plan:
  - 1) Post-approval alterations to lighting plans or intended substitutions for specified lighting equipment on the approved plan shall be submitted to the county for review and approval prior to installation. Requests for substitutions shall be accompanied by catalog cuts of the proposed equipment that demonstrate the proposed substitution is equal to or exceeds the optical quality and maintainability of the specified luminaires, and accompanied by a lighting plan, including a point-by-point plot, which demonstrates that proposed substitutions will result in a lighting design that equals or exceeds the quality of the approved plan.
  - 2) The county reserves the right to conduct post-installation inspections to verify compliance with the requirements of this section and the approved lighting plan commitments, and if deemed necessary, to require remedial action at no expense to the county.
  - 3) All exterior lighting, including building-mounted lighting, shall meet Illuminating Engineering Society of North America (IESNA) full-cutoff criteria unless otherwise specifically approved by the county.

### **Section 24- 1002: General Outdoor Lighting Standards**

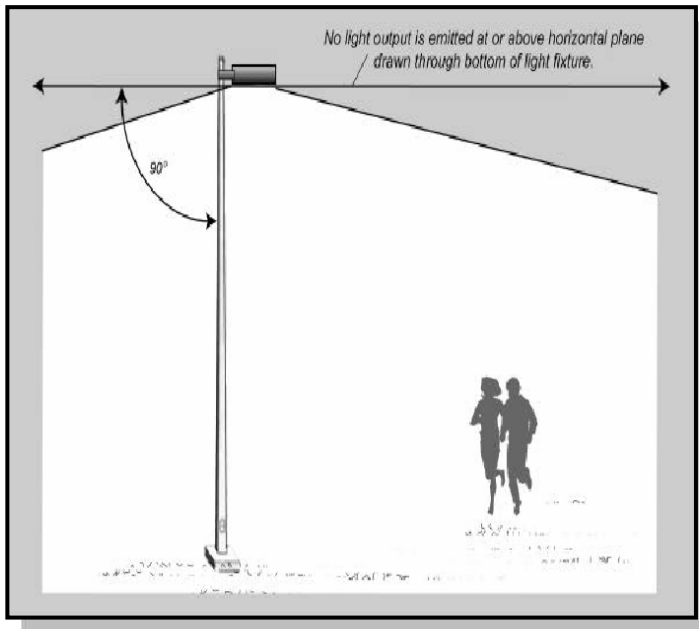
- a) For the lighting of predominantly horizontal surfaces such as, but not limited to parking areas, roadways, vehicular and pedestrian passage areas, merchandising and storage areas, automotive-fuel dispensing facilities, automotive sales areas, loading docks, active and passive recreational areas, building entrances, sidewalks, bicycle and pedestrian paths, and site entrances, luminaires shall be aimed straight down and shall meet IESNA full-cutoff criteria.
- b) For the lighting of predominantly non-horizontal surfaces such as, but not limited to, buildings, facades, landscaping, signs, displays, and statuary, when their use is specifically permitted by the

county, luminaires shall be full cut-off or shielded and shall be installed and aimed so as to not project their output into the windows of neighboring residences, adjacent uses, past the object being illuminated, skyward or onto a public roadway and shall comply with all regulations for sign lighting found in 24-69 through 24-74.



**Lighting used for architectural/landscaping lighting shall be aimed and controlled so that light is confined, as much as possible, to the objects that are intended to be lit**

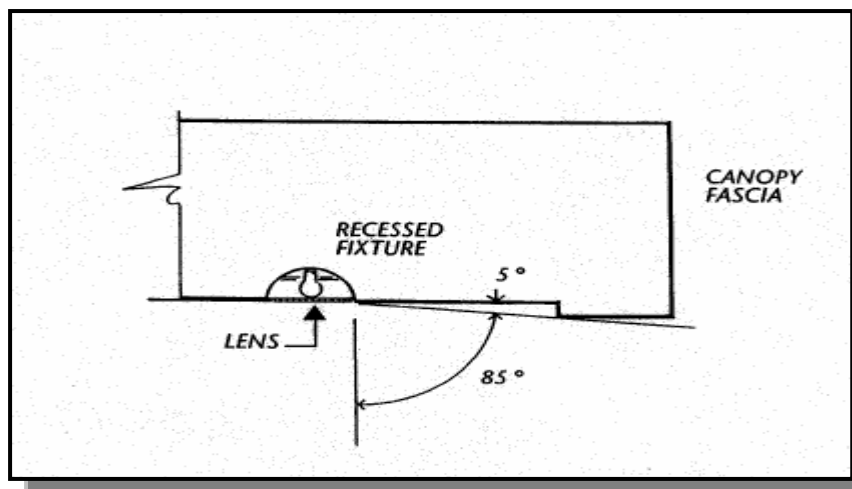
- c) Full Cut-Off Lighting Fixtures – All outdoor lighting fixtures shall be full cut-off lighting fixtures used for but not limited to all outdoor walkways, parking lots, canopy and building/ wall mounted lights. A full cut-off lighting fixture is a fixture from which no light output is emitted at or above a horizontal plane drawn through the bottom of the lighting fixture.



**Example of full cut-off lighting fixture**

### Section 24-1003 Control of Glare

- a) All lighting shall be aimed, located, designed, fitted and maintained so as not to present a hazard to drivers by impairing their ability to safely traverse and so as not to create a nuisance by projecting or reflecting objectionable light onto a neighboring use or property.
- b) Directional luminaires such as floodlights and spotlights, when their use is specifically approved by the county, shall be so shielded, installed and aimed that they do not project their output into the windows of neighboring residences, adjacent uses, past the object being illuminated, skyward or onto a public roadway.
- c) Vegetation screens shall not be employed to serve as the primary means for controlling glare. Rather, glare control shall be achieved primarily through the use of such means as cutoff luminaires, shields and baffles, and appropriate application of luminaire mounting height, wattage, aiming angle and luminaire placement.
- d) Flag lighting sources shall not exceed 7,000 aggregate lamp lumens per flagpole. The light source shall have a beam spread no greater than necessary to illuminate the flag and shall be shielded so the light source (lamp and reflector) is not visible at normal viewing angles.
- e) Under-canopy lighting for such applications as gas/service stations, hotel/theater marquees, fast-food/bank/drugstore drive-ups, shall be directed so as not to produce glare on any adjacent property or public right-of-way. Luminaires shall be mounted horizontally and shall be recessed fixtures with no bulb, lens or globe extending below the casing. The casing shall be opaque and shall completely surround the entire light fixture and light source in such a manner that all light will be directed downward and the light source is not visible from the side (refer to the following graphic). Plans detailing the illumination patterns (Iso-footcandle diagrams) and specific design of all lighting fixtures shall be submitted for review along with the site or subdivision plan.



**Example of full cut-off fixture for canopy lighting**

### Section 24-1004 Installation of lighting fixtures;

- a. Pole mounted luminaires for lighting horizontal tasks shall be aimed straight down.

- b. Poles and brackets for supporting luminaires shall be those specifically manufactured for that purpose and shall be designed and rated for the luminaire and mounting accessory weights and wind loads involved.
- c. Pole foundations shall be designed consistent with manufacturer's wind load requirements and local soil conditions involved.

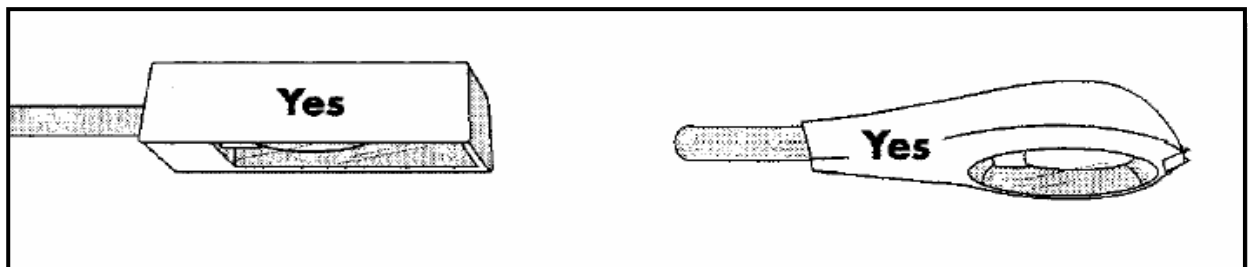
#### **Section 24-1005 Maintenance**

- a) Luminaires and ancillary equipment shall be maintained so as to always meet the requirements of this ordinance.

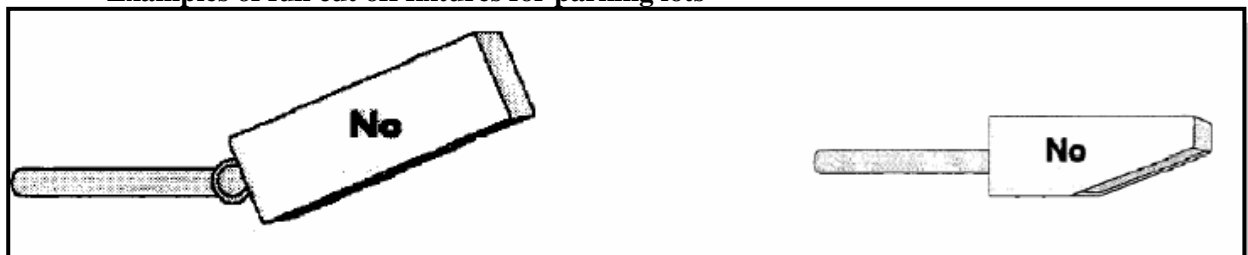
#### **Section 24-1006: Parking Lots**

(\*NOTE: These are not new requirements, they are relocated from section 24-57 (c) so that all outdoor lighting requirements are located or referenced in one place.)

- a) Adequate lighting shall be provided if the uses which are served by the parking lot will be in operation at night.
- b) No lighting fixture shall exceed a height of 30 feet. Height of the light fixture shall be the distance from ground or finished grade level to the highest point of a luminary.
- c) The lighting in parking lots shall be directed so as not to produce glare on any adjacent property or public right-of-way. Luminaries shall be mounted on light poles horizontally and shall be recessed fixtures with no bulb, lens or globe extending below the casing. The casing shall be opaque and shall completely surround the entire light fixture and light source in such a manner that all light will be directed downward and the light source is not visible from the side (refer to the following graphic). Plans detailing the illumination patterns (Iso-footcandle diagrams) and specific design of all lighting fixtures shall be submitted for review along with the site plan.



**Examples of full cut off fixtures for parking lots**



**Examples of non full cut off fixtures**

**Section 24-1007 Signs**

- a) All outdoor lighting associated with illuminating signage shall be required to follow specifications for sign lighting found in Article 2, Division 3.